

Two Cases of Intrauterine Adhesions with Rare Hysteroscopic Findings

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An intrauterine adhesion (IUA) is a form of disease that causes the uterine muscle walls to become adhered to each other due to the basal layers of the endometrium being damaged by various factors, thus resulting in partial or complete occlusion of the uterine cavity.^[1] In recent years, with the increase of uterine cavity surgery, its incidence has been increasing, seriously affecting women's reproductive function, menstrual physiology, and physical and mental health. Hysteroscopy represents the gold standard for the diagnosis of IUAs. Hence, recognition of hysteroscopic images is of paramount significance in determining the diagnosis, the choice of concurrent treatment, and prognostic evaluation. In this paper, we describe two cases of IUAs that were successfully treated with rare hysteroscopic findings. The diagnosis and classification of IUAs were based on the American Fertility Society (AFS) classification system of 1988.^[2]

One patient was a previously healthy 29-year-old woman, G₂P₀ (gravidity twice, no procreation), came to the Department of Gynecology Minimally Invasive Center of Beijing Obstetrics and Gynecology Hospital, because she appeared 11-month amenorrhea after a surgical abortion. The ultrasonography suggests the endometrial thickness of 12 mm and uneven endometrial echoes. She was diagnosed with severe IUAs (AFS score 12) by hysteroscopy in another hospital on May 15, 2012, and suggested doing hysteroscopic adhesiolysis with laparoscopic monitoring there. She refused it and came here for further treatment.

The re-ultrasonography test got the same results. Her sex hormone tests implied the possibility of the polycystic ovarian syndrome. After taking ethinylestradiol and cyproterone acetate tablets for 6 months, her menstrual pattern got normal. The patient was treated by hysteroscopic surgery combined with abdominal ultrasound monitoring again on October 22, 2012. Under the monitoring of abdominal ultrasonography, we saw a closed middle uterine

segment of the uterine cavity caused by dense adhesions from the hysteroscope, where a pore-like tubal was located at left. Hysteroscope was inserted into the uterine cavity alongside the endometrium line finally and hysteroscope was used to perform pushing and blunt dissection in the uterine cavity, so that the filmy adhesions could be separated completely, the uterine cavity came back to normal form and the whole uterine cavity and openings of the bilateral fallopian tubes could be observed [Figure 1]. Pathological report of diagnostic curettage suggested that endometrium was in the proliferative phase. After the operation, the patient kept the normal menses without taking medicine and achieved a natural healthy pregnancy, experienced a normal delivery, and gave birth to a full-term baby boy.

Another patient was a 28-year-old woman, G₂P₁ (gravidity twice, procreation once), experienced 8-month amenorrhea after mid-trimester induction of labor by rivanol and curettage. The patient suffered hypomenorrhea after transcervical resection of adhesion on May 5, 2014, in a local hospital. Hence, she came here for further treatment. The result of ultrasonography suggests the endometrial thickness of 4 mm, and the results of six sex hormone tests were within a normal range.

On November 19, 2014, we did the hysteroscopy for her under the monitoring of abdominal ultrasonography. It is difficult to insert the hysteroscope into the uterine cavity, and ultrasonography showed it only arrived the internal cervical os. Then, hysteroscope entered the uterine cavity going

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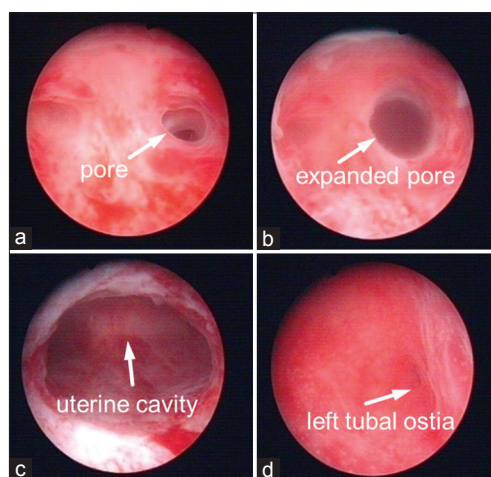


Figure 1: Images showing adhesion with pore. The morphology of the uterine cavity was completely normal after blunt separating adhesion under abdominal ultrasonography. (a) Adhesion and pore in the middle segment of the uterine cavity. (b) The uterine cavity after partially separated of adhesion. (c) The uterine cavity after adhesion was completely dissected. (d) Visible normal left tubal ostia.

along the endometrium line finally after blunt dissection of dense adhesions in the lower uterine segment of the uterine cavity by its front-end. Endometrium was very thin and showed a patchy hyperemia-like change, openings of bilateral fallopian tubes were observed, and there were no space-occupying lesions [Figure 2]. Pathological report of diagnostic curettage indicated that the endometrium was in the proliferative phase. After the operation, the patient's menses became normal.

These two cases were diagnosed by hysteroscopy as severe uterine adhesions in other hospitals. Adhesion in the first case was with pores and the hysteroscope appeared to reach the top of the uterine cavity for the first time almost (operated in another hospital), but the hysteroscope was just inserted into the area below the endometrium instead of the uterine cavity by mistake, which leads to a misdiagnosis of severe uterine adhesions. While in the second case, the hysteroscope just reached the location of the adhesions but failed to enter the top of the uterine cavity because of occlusion by IUAs. Abdominal ultrasonography is important for the diagnosis and treatment of severe IUAs. This technique can help us to demonstrate the extent and location of IUAs and allow us to create a reasonable treatment plan.^[3,4] Diagnosis by simple hysteroscopy has certain limitations on this type of IUAs which could lead to misdiagnosis, while intraoperative abdominal ultrasound monitoring can help guide the hysteroscope and judge the direction and depth of the uterine cavity to reduce and/or eliminate the blind area in the visual field of hysteroscopic inspection for patients with rare IUA images and to locate the precise surgical location. This technique has improved the safety of the operation, ensures the curative effect, and has made this complex operation easier to carry out.^[5] Previous research by Coccia *et al.*^[6] suggested that the mechanical force of uterine perfusion under the monitoring of ultrasonography may separate mild or moderate central type

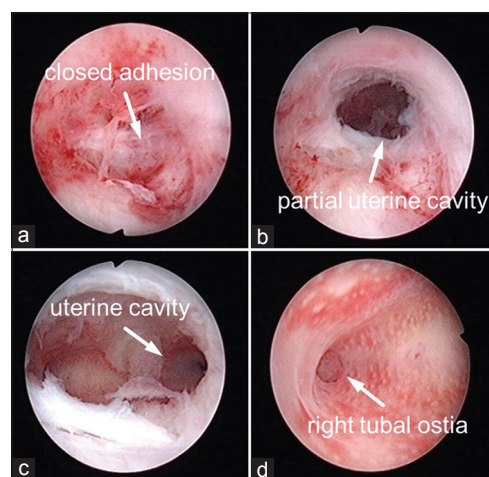


Figure 2: Images showing dense adhesion with complete obstruction uterine cavity. The morphology of the uterine cavity was generally normal after blunt separating dense adhesion under abdominal ultrasonography. (a) Adhesion with complete obstruction in the low segment of the uterine cavity. (b) The uterine cavity after adhesion had been partially blunt separated. (c) The uterine cavity after the adhesion had been separated bluntly. (d) Visible normal right tubal ostia.

adhesions with good effect. In two cases, the hysteroscope is carried along the endometrium line under the guidance of abdominal ultrasonography in order to do blunt dissection to make the uterine cavity come back to normal form.

The preoperative measurement of endometrial thickness is very useful for guidance when evaluating the treatment outcome of IUAs. Usually, the basilar layer of the endometrium is destroyed in patients with severe IUAs. William and Bradley^[7] previously reported that the preoperative endometrial thickness of patients with severe IUAs, as measured by ultrasound, can predict posttreatment prognosis. Patients with the thicker depth of the endometrium have a better prognosis. In addition, not only the thickness of the endometrium can be measured by ultrasonography, but also the integrity of the endometrium, including the interrelationship between the subendometrial muscle layer and the zone of IUAs, can be measured zones.^[8] The preoperative endometrial thickness, as measured by ultrasonography, might predict the treatment outcome of IUAs and is therefore of great significance in guiding follow-up treatment and the evaluation of prognosis.

In addition, for diagnosing and treating IUAs, hysteroscopy combined with abdominal ultrasonography, can accurately judge the degree and location of IUAs and then allow us to choose the appropriate treatment modality. Moreover, intraoperative abdominal ultrasonography monitoring can provide us with accurate surgical positioning information as a guidance of hysteroscopy to improve the safety and success rate of hysteroscopic surgery and can guarantee the curative effect.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given

her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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